Notice of Allowability	Application No.	Applicant(s)	
	10/063,357	WANG ET AL.	
	Examiner	Art Unit	
	Allen C. Ho	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed on 01 November 2004*.

2. ☒ The allowed claim(s) is/are *1-6,12-15,18-29 and 32-43*.

3. ☒ The drawings filed on *01 November 2004* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Patrick S. Yoder (Reg. No. 37,479) on 17 November 2004.

The application has been amended as follows:

(1) Claim 1, line 8, "a" has been replaced by --the--.

(2) Claim 18, line 5, "a" before "first" has been replaced by --the--.

(3) Claim 18, line 9, "a" has been replaced by --the--.

(4) Claim 22, line 7, "motor;" has been replaced by --motor using a track;--.

(5) Claim 43, line 5, --an-- has been inserted before "electronic".

(6) Claim 43, line 8, "a stationary" has been replaced by --the--.

Allowable Subject Matter

2. Claims 1-6, 12-15, 18-29, and 32-43 are allowed.

3. The following is an examiner's statement of reasons for allowance:

With regard to claims 1-6, the prior art fails to teach or fairly suggest an imaging system comprising an x-ray source mounted on an arc-shaped track, a stationary electronic x-ray detector, and a first arm having a first portion connected to the x-ray source and a second portion

connected to a motor configured to provide torque to the second portion of the first arm to move the x-ray source along the arc-shaped track as claimed in claim 1.

With regard to claims 12-15, the prior art fails to teach or fairly suggest a tomosynthesis x-ray mammography imaging system comprising an x-ray source mounted to an arc-shaped track, a stationary electronic x-ray detector, a first portion of a first arm connected to the x-ray source, a second portion of the first arm distal from the first portion is connected to a mechanical driving mechanism comprising a motor configured to rotate the second portion of the first arm to move the x-ray source along the arc-shaped track as claimed in claim 12.

With regard to claims 18-21, the prior art fails to teach or fairly suggest a tomosynthesis x-ray mammography imaging system comprising an x-ray source mounted onto an upper portion of a first arm, a stationary electronic x-ray detector mounted facing the x-ray source to a first side of the second arm, a shaft rotatably connecting a middle portion of the first arm to a middle portion of the second arm, a linear motion track that moves relative to the second arm, and a mechanical driving mechanism which moves a lower portion of the first arm along the linear motion track such that the x-ray source moves in an arc-shaped path as claimed in claim 18.

With regard to claims 22-28, the prior art fails to disclose a tomosynthesis x-ray mammography imaging system comprising a first means for irradiating a patient's breast with an x-ray dose at a plurality of steps along an arc-shaped path and a second means for mechanically moving the first means in a stepped motion on the arc-shaped path around the patient's breast including an arm displaced in rotation by a drive motor using a track as claimed in claim 22.

With regard to claims 29 and 32-36, the prior art fails to teach or fairly suggest a tomosynthesis x-ray imaging method comprising the steps of mechanically moving an x-ray

source by a first arm rotated by a motor in a stepped motion on a arc-shaped path around an object using a track and detecting the x-rays transmitted through the object with a stationary electronic x-ray detector as claimed in claim 29.

With regard to claims 37 and 38, the prior art fails to teach or fairly suggest an imaging system comprising an x-ray source mounted to a first portion of a first arm, a stationary electronic x-ray detector, a second portion of the first arm distal from the first portion is mounted to an arc-shaped track, and a mechanical driving mechanism comprising a motor configured to move the second portion of the first arm along the arc-shaped track to move the x-ray source as claimed in claim 37.

With regard to claims 39 and 40, the prior art fails to teach or fairly suggest an imaging system comprising an x-ray source mounted to a first portion of a first arm, a stationary electronic x-ray detector, a second portion of the first arm distal from the first portion is mounted to a linear track, and a mechanical driving mechanism comprising a ball screw configured to move the second portion of the first arm along the linear motion track to move the x-ray source in an arc-shaped path as claimed in claim 39.

With regard to claim 41, the prior art fails to teach or fairly suggest a tomosynthesis x-ray mammography imaging system comprising an x-ray source mounted to a first portion of a first arm, a stationary electronic x-ray detector, a second portion of the first arm distal from the first portion is mounted to an arch-shaped track, and a mechanical driving mechanism comprising a motor configured to move the second portion of the first arm along the arc-shaped track to move the x-ray source in an arc-shaped path as claimed.

With regard to claim 42, the prior art fails to teach or fairly suggest a tomosynthesis x-ray imaging method comprising the steps of mechanically moving an x-ray source in a stepped motion on an arc-shaped path around an object using a track by moving a first portion of a first arm on an arc-shaped track while a second portion of the first arm supports the x-ray source and detecting the x-rays transmitted through the object with a stationary electronic x-ray detector as claimed.

With regard to claim 43, the prior art fails to teach or fairly suggest a tomosynthesis x-ray imaging method comprising the steps of mechanically moving an x-ray source in a stepped motion on an arc-shaped path around an object using a track by moving a first arm supporting the x-ray source on a linear motion track while allowing relative motion between the track and a second arm supporting electronic x-ray detector and detecting the x-rays transmitted through the object with the stationary electronic x-ray detector.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen C. Ho
Patent Examiner
Art Unit 2882

17 November 2004